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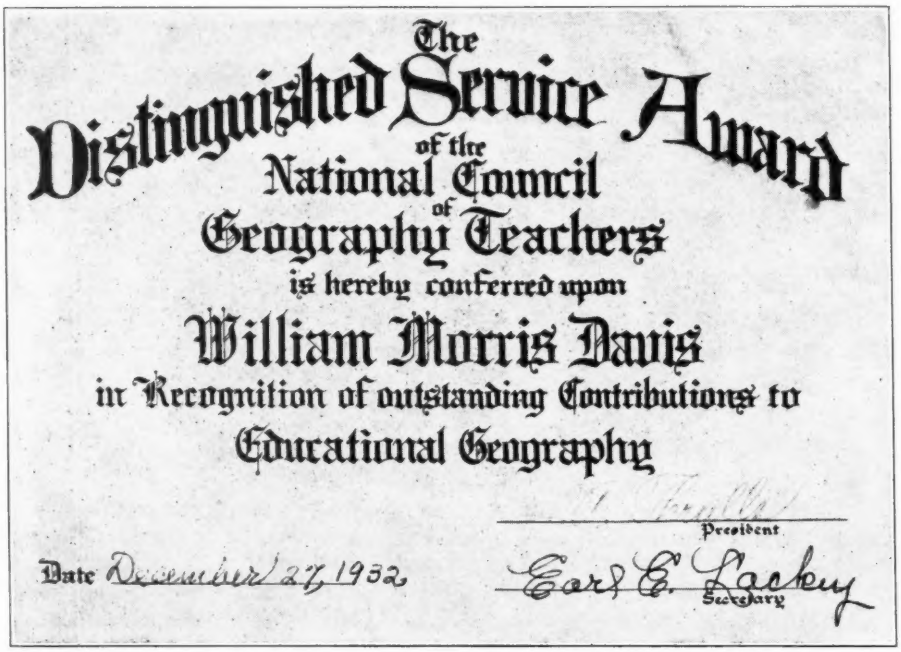
## CONFERRING OF THE DISTINGUISHED SERVICE AWARD OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

For some years past members of the National Council of Geography Teachers have discussed the desirability of establishing a medal or diploma to be conferred upon teachers who have done particularly outstanding service in the field of educational geography. This discussion resulted in the appointment of a committee consisting of George J. Miller and E. E. Lackey, whose duty was to draw up the terms under which this Distinguished Service Award should be granted. The following report of this committee was approved by the Board of Directors at the Ypsilanti meeting in December, 1931:

1. We recommend the establishment of a Distinguished Service Award.
2. The conditions covering eligibility for the Award should be broad enough to include any outstanding service in geographic education.
3. The Distinguished Service Award should be conferred at the annual meeting of the National Council.
4. The technique for evaluating the quality and type of service to receive recognition shall be formulated by the Award Committee.
5. The Award Committee shall consist of five members elected by the Board of Directors at the annual meeting. The President and Secretary of the National Council shall be members ex officio. The term of office of each elected member shall be five years, and one member shall be elected annually. However, the first committee shall consist of one member elected for one year, one for two years, one for three years, one for four years, and one for five years. The member whose term of office expires first shall be chairman of the committee. Vacancies in the committee membership shall be filled for the unexpired term by the Board of Directors.
6. The Award Committee may make and receive nominations for the Distinguished Service Award. Any member of the National Council may send nominations to said committee. Such nominations must be accompanied by a full statement of the service rendered geographic education by the nominee.
7. The Award Committee shall have full authority by unanimous consent to select the one upon whom the Distinguished Service Award is to be conferred, except that not more than one award shall be conferred in the same year without the approval of the Executive Committee of the National Council.
8. The Distinguished Service Award shall be certified on a properly engraved diploma signed by the President and Secretary of the National Council of Geography Teachers.

9. It is understood that the award carries with it the highest honor that the National Council of Geography Teachers can bestow.
10. The Award is not to carry with it any monetary considerations.
11. We recommend that the Distinguished Service Award be conferred sparingly and that not more than one award be made in a given year. However, we recognize that at the outset and under special circumstances it may be desirable to vary from this recommendation. The prestige and hence the educational value of the award will depend very greatly upon the care exercised by the Committee in its bestowal.

The Board of Directors authorized the appointment of a committee of five to administer the Distinguished Service Award plan.


The
Distinguished Service Award
of the
National Council
of
Geography Teachers
is hereby conferred upon
William Morris Davis
in Recognition of outstanding Contributions to
Educational Geography
President
Date December 27, 1932
Secretary

The committee appointed consisted of N. A. Bengtson, Alice Foster, L. O. Packard, Cora P. Sletten, and R. H. Whitbeck, the latter to act as chairman in 1932. Zoe Thralls and E. E. Lackey, respectively president and secretary of the Council, were ex-officio members of the committee. One member of this committee retires annually and the vacancy is filled by the Board of Directors by the annual appointment of a new member to serve five years.

The Distinguished Service Award committee of 1932 unanimously selected Professor William Morris Davis, Emeritus Professor of Geography at Harvard University, Cambridge, Massachusetts. Professor Davis appreciatively accepted the honor. At the Wash-

ington meeting, on the evening of December 27, R. H. Whitbeck, Chairman of the Committee, presented the diploma of award to Professor Davis in absentia. Professor Davis is now living in Pasadena, California, and found it impracticable to be present at the Washington meeting. In accepting the Distinguished Service Award by letter, Professor Davis asked permission to expand his remarks somewhat and to present his views on the teaching of physical geography—which, as is well known, is the phase of the subject in which he is most interested. Portions of Professor Davis' letter of acceptance were read at the Washington meeting, and the entire letter of acceptance is published in this issue of the JOURNAL OF GEOGRAPHY.

The diploma of award is here reproduced. The diploma is 5½ x 8½ inches in size, is hand-engrossed and is enclosed in a silk-lined art leather case on the outside of which is lettered—"Distinguished Service Award, 1932, to William Morris Davis."

The Committee of Award will select a teacher of geography of outstanding achievement who will receive the Award at the annual meetings of the National Council.

## REMARKS BY W. M. DAVIS ON RECEIVING THE DISTINGUISHED SERVICE AWARD OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

Before mention is made of my personal feelings on receiving this impressive mark of your esteem, allow me to congratulate you on the possession of remarkably good memories; for it is now thirty or forty years since my contact with the teaching of geography in the secondary schools practically ceased, yet it must be that contact which you memorialize. During several years in that rather remote period I greatly enjoyed conducting summer courses in geography at Harvard, thru which an agreeable and somewhat extended acquaintance was made with able and energetic teachers. In the same period I frequently addressed meetings of teachers in New England and wrote a number of articles concerned with the position that the fine old subject of geography deserved to have in our educational programs. To be sure, I have in recent years given four summer courses in geography on the Pacific coast also, but they have not produced any strong impression, and even if they had you surely would not know of it. It must therefore be chiefly my work at that earlier time which you now recall; and to recall it from so far back in the past shows a commendably retentive memory on your part.

If I now turn to an expression of my personal gratification over the distinguished consideration you are showing for my work of so long ago, let me first assure you that it is both sincere and profound; for it is truly heart-warming for an old teacher to find that he is still remembered by many younger ones. But it must be added that a lively feeling of surprise is mingled with the gratification, because geography as taught in our schools for the last thirty years has not been markedly of the nature that I strove to make it; indeed, the special phase of the old subject which I had recommended as worthy of your attention and which some of you—or your predecessors—had for a time taken up with enthusiasm, has been practically abandoned. In other words, the subdivision of geography formerly called physical geography and later physiography, to which most of my geographical work has been directed and which had something of a "run" in the '90s, has been almost completely replaced by another phase, known as commercial geography, with which I have had nothing to do. If then, after taking up for a short time the physiographic phase which I recommended, you dropped it and introduced in its place a commercial phase in the development of which I never took any part, why in the world do you now honor me? I hope your answer to that question will be that, even tho modernized physical geography has been dropped from the position it gained in a good number of schools at the end of the last century, many of you still regard it as a worthy subject for school teaching and some of you would even like to see it reinstated.

But let me add at once that the abandonment of modernized physical geography thirty years ago was inevitable; for as I now see the question, it was introduced prematurely. The subject had not then been developed to the point where it could hope to hold a permanent position in our schools. Its explanatory treatment of various problems—and that was its essence—was little understood by superintendents or by the older school principals; it had not been sufficiently studied by the great majority of teachers to make them feel at home in it; and its few texts included too many novelties for easy assimilation. Hence its replacement by some more easily taught phase of geography was unavoidable.

All that was, however, more true thirty years ago than it is today. In the considerable period of time that has since elapsed, geography has made great progress in our colleges; and any subject which is growing actively in the colleges will surely make its

way down into the schools. I have therefore been for some time of the opinion that physical geography will in the next thirty years regain, and on a much better footing than before, something of the position it held thirty years ago, and this opinion is fortified by your action tonight. The isolation of oxygen was a great chemical novelty one hundred and fifty years ago; it was possible only in the laboratories of the most accomplished chemists of that time. Now oxygen is prepared as a matter of course by the pupils of high schools in their elementary laboratories. Work in physiography is likewise destined to make similar downward progress from the universities of today into the schools of the next generation. It will not have to wait 150 years, for things go on faster now than they used to.

Many of you will live long enough, tho I shall not, to learn whether that prediction is verified. You will witness the increasing improvement of geographical teaching, and with that improvement there will be better and better opportunity for our school children to learn the physiographic meaning of many important geographical facts, which used to be and perhaps still are taught empirically; for example, the origin of harbors, such as those of San Francisco on our Pacific sea-board, of Rio de Janeiro in Brazil, and of Sydney in Australia, by a slight submergence of the coast, in consequence of which an arm of the sea enters a previously eroded valley or lowland; again, the origin of our most fertile prairies as plains of till spread out by the vast ice sheets which, in the recent history of the earth, invaded our north-central states; likewise, the glacial origin of the numerous water-falls in the Alps, which when applied to the production of electric power that can be wired out of the mountains, has industrially revolutionized the neighboring lower lands. Problems of that sort used to be taught without explanation, and are probably still so taught in the less progressive schools, in spite of the fact that they all have a strong economic flavor; so strong indeed that they might well be and probably are included in the better teaching of commercial geography. But the three problems just instanced are only a few from a multitude of others, most of which are probably never mentioned in the commerical geography of today.

It is of course not to be questioned that commercial geography, when well taught, may have a great practical value. But it is difficult to believe that all our school children, girls as well as boys will be, on growing up, so largely occupied with the broader aspects of

commerce as to put to use all the commercial geography they have studied, even if they remember it; hence its utilitarian value should not be over-estimated. Moreover, when they do study it, its value might be increased if a better physiographic under-pinning were provided for the commercial super-structure, as in the three examples instanced above; and it is likely enough that the increased attention to physiography which I have predicted will make its entrance into school teaching by such enlargement and rationalization of commercial geography.

But there is another side of education which deserves consideration along with the practical side; that is the side which adds to the higher pleasure of living. It may be fairly said that, of all outdoor sciences, modernized physical geography is our most constant companion and one of our most enjoyable companions as we travel about; and in these modern days nearly every one travels. The reason for this is that modernized physical geography adds meaning to visible landscapes and thus gives us a better appreciation of the world we live in; while other phases of geography leave out the visible landscape and deal as a rule only with large regions in general terms.

But before physiography can hope for more general recognition as a school subject, its content must be organized so that it may take a better systematized position in our educational system; perhaps not so thoroly organized as Latin or geometry, in which there is now so general an agreement as to the measure of progress that should be made in successive school years, but much better organized than it has yet been.

As a means of furthering the better organization of physiographic teaching, allow me to quote to you a suggestion that I have lately made elsewhere. Let a committee of the Association of American Geographers, which today includes practically all college teachers of our subject and a number of school teachers also, select some 30 or 40 or 50 physiographic principles, such as those involved in the three examples given above, which interact with corresponding principles of human or regional or commercial geography; principles which would everywhere be as true as the binomial theorem is in algebra. Then let the committee select also a few first-class examples for every one of such interactions. Third, let these standardized physiographic principles and their examples be recommended for adoption and inclusion by all writers of physiographic text books; but with the further recommendation that each shall add as

many more principles and examples as he likes, in order to adapt his book to its particular object, or to fit it for his particular locality. Thus we should secure a standardized body of material ready for school use, and yet not so stiffly standardized but that every text and every teacher might preserve abundant individuality. A good body of physiographic principles and facts might thus be so well barbed with meaning that they would catch and stay in the pupils' memory; they would, indeed, be so interesting that the pupils would like to remember them. Another advantage of such standardization would be that it would provide a body of geographical knowledge on which effective and disciplinary examinations could be based by college boards; and that is more than can be said of examinations in geography at present.

If this were done an, as yet, unmentioned advantage would follow. Geography would thereby retain and strengthen a hold on physiography and prevent its transference to geology; for I greatly regret the decision made by some of our best college teachers to the effect that the old subject of physiography or physical geography should be withdrawn from the science to which it so manifestly belongs, merely because it has been given an explanatory treatment, which is of course taken largely from the cognate science of geology. We might as well take physics away from its well established department and place it under mathematics, because its advanced treatment is now so largely mathematical. Astronomy would suffer a similar fate. Likewise zoology would be transferred to some new and as yet unnamed department of science because, ceasing to be chiefly a descriptive study, it is now taught from the explanatory standpoint of evolution.

Now these suggestions and reflections must be brought to a close, for you have other things to do than to sit still while an old teacher prances around on his hobby. Turn therefore to your other interests and carry out the excellent program of your meeting; but however much the program engrosses you, do not let it cause you to forget that your thoughtfulness of him has given added happiness to an old man, who is proud to know that you remember him and who is deeply grateful to you for doing so.

# SECRETARY'S REPORT, WASHINGTON MEETING NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

The annual meeting of the Board of Directors and Executive Committee of the National Council of Geography Teachers was held at the Shoreham Hotel, Washington, D.C., December 27, 1932. The following business was transacted:

1. The Nominating Committee consisting of Marguerite Uttley, Harriet Carter, DeForest Stull, Ella Huntting, and Robert M. Brown as chairman, presented its report and as a result the following were elected:

   *President:* George J. Miller, State Teachers College, Mankato, Minn.

   *First Vice-President:* Edith P. Parker, University of Chicago, Chicago, Illinois.

   *Second Vice-President:* Vernor C. Finch, University of Wisconsin, Madison, Wisconsin.

   *Secretary:* Earl E. Lackey, University of Nebraska, Lincoln, Nebraska.

   *Treasurer:* Clyde E. Cooper, Ohio University, Athens, Ohio.

   *Members of the Executive Committee,* terms to expire in 1935: Zoe E. Thralls, University of Pittsburgh, Pittsburgh, Pa.; Alice Foster, University of Chicago, Chicago, Illinois; Robert M. Brown, Rhode Island College of Education, Providence, Rhode Island.

   *Member Distinguished Service Award Committee,* term to expire in 1937: Ray H. Whitbeck, University of Wisconsin, Madison, Wisconsin.

   *Directors at Large:* Mendel E. Branom, Harris Teachers' College, St. Louis, Mo.; Fred J. Breeze, North Side High School, Fort Wayne, Ind.; Clyde E. Cooper, Ohio University, Athens, Ohio; Erna Grassmuck, State Teachers' College, Indiana, Pa.; Clare Symonds, Senior High School, Quincy, Ill.; A. W. Abrams, State Department of Education, Albany, N.Y.

2. The Educational Relations Committee Report by Erna Grassmuck, chairman.

   The report dealt with the work of the committee as to its activities in the World Federation of Educational Associations, and the National Educational Association. It was recommended that Robert M. Brown be responsible for a chapter in the World Federation Book promoted by Augustus O. Thomas.

   Erna Grassmuck was continued as chairman of this committee with power to appoint other members.

3. High School Geography Committee report by Alice Foster, chairman.

   Discussion following report resulted in motion to increase committee to five members appointed by incoming president. The committee will formulate high school courses in the field of political geography. Members of the committee are: Alice Foster, chairman; R. M. Brown, D. C. Ridgley, Marguerite Uttley, Katherine Calloway, Clare Symonds.

4. Research-Finance Committee report by Ray H. Whitbeck.

   The committee, in order to legalize the various aspects of our organization's activities recommended that the National Council of Geography Teachers be incorporated under the laws of the District of Columbia. A motion covering the recommendation was made and carried.

   In consequence articles of incorporation were made under the names of Mrs. Curtis Garrison and Carrie H. Shipley of the District of Columbia and Ray Hughes Whitbeck of Madison, Wisconsin.

   Copies of the Articles of Incorporation are to be filed with the secretary.

5. The Distinguished Service Award for 1932 was bestowed upon William Morris Davis. The award was in the nature of an engraved diploma in a gold embossed leather cover.

6. Motion was made and carried that Zoe E. Thralls be appointed a committee of one to assemble digests of researches in geography in education following the nature of those in the Geography Yearbook and report at the annual meeting in 1933.
7. Moved and seconded that Mr. Miller be authorized to use not to exceed one hundred dollars from the National Council treasury in promoting a campaign for membership thru JOURNAL activities.
8. Moved and seconded that the publicity work thru press bulletins be revived. Motion carried. George F. Howe was designated chairman to see that the project is put into effect.
9. Resolutions Committee report by George F. Howe.

   *Resolved,* that the National Council of Geography Teachers express sincere appreciation to Dr. Gilbert Grosvenor, the Trustees, and the Staff of the National Geographic Society for the opportunity to visit the Society's building and printing plant and for the hospitality at luncheon.

   *Resolved,* that the National Council of Geography Teachers extend its thanks to Dr. Maynard Owen Williams for his excellent address to the Council and its friends at the annual banquet.

   *Resolved,* that the National Council of Geography Teachers express its appreciation to Dr. Helen M. Strong for assistance in making local arrangements for the Washington meeting.

   *Resolved,* that the National Council of Geography Teachers extend its thanks to Mr. Boutwell of the Office of Education for assisting in the publicity for the Washington meeting.

   *Resolved,* that the National Council of Geography Teachers express to the management of the Shoreham Hotel its gratitude for the courtesies extended during the recent sessions.

   *Resolved,* that the National Council of Geography Teachers express grateful appreciation to the Greater National Capital Committee for its aid at the sessions just concluded.

   Committee

   GEORGE F. HOWE, *Chairman*
   KATHERYNE C. THOMAS
   W. M. GREGORY

10. The following were in attendance at the annual business meeting:

| | |
|---|---|
| N. A. Bengtson, Nebraska | Ella Huntting, New Jersey |
| R. M. Brown, Rhode Island | Earl E. Lackey, Nebraska |
| C. E. Cooper, Ohio | George J. Miller, Minnesota |
| Ivan Diehl, Maryland | Edith P. Parker, Illinois |
| Alice Foster, Illinois | Douglas Ridgley, Massachusetts |
| Anne M. Goebel, Kansas | Vera Rigdon, Mississippi |
| Erna Grassmuck, Pennsylvania | Carrie B. Shipley, D.C. |
| Elizabeth Gregory, New Hampshire | Zoe E. Thralls, Pennsylvania |
| Robert B. Hall, Michigan | Marguerite Uttley, Iowa |
| George F. Howe, Connecticut | R. H. Whitbeck, Wisconsin |

11. Meeting adjourned.

EARL E. LACKEY
*Secretary*

# NOTES ON A JOURNEY UP THE VALLEY OF THE RIO DOCE, BRAZIL

PRESTON E. JAMES
University of Michigan

The Rio Doce rises in the high plateaus of southeastern Minas Geraes, Brazil. The western limit of its basin is formed by the Serra do Espinhaço, or Backbone Mountains, which extends as a

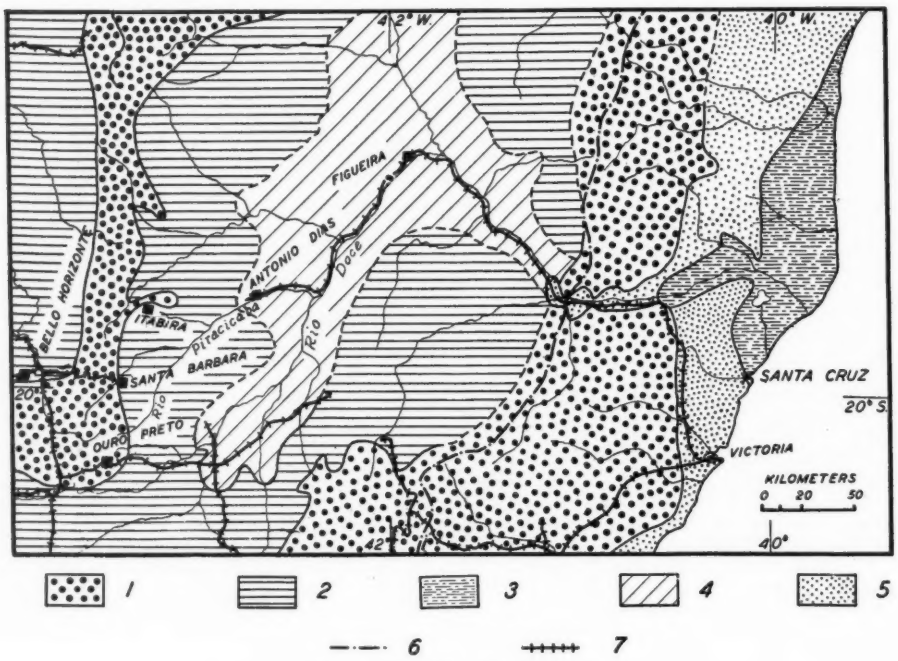



FIG. 1. The Rio Doce Valley

1. Crystalline Mountains. 2. Plateau of Minas Geraes, about 2400 feet elevation. 3. Delta of the Rio Doce. 4. Middle Rio Doce Valley. 5. Coastal Terraces, and Terraces of the Rio Doce Gorge. 6. State boundary, between Minas Geraes and Espirito Santo. 7. Railroads.

narrow but unbroken range from the vicinity of Ouro Preto northward into the state of Bahia. On its western side lies the São Francisco Valley: to the east its slopes are drained by a number of shorter streams which flow more directly to the Atlantic. The southernmost of these shorter streams is the Rio Doce.

Between the state of Minas Geraes and the Atlantic, however, there is another range of mountains, lying within the boundaries

of the state of Espirito Santo. Like the Appalachians in the United States, this range of coastal mountains has had the effect of barring easy access to the interior. The Rio Doce passes to the Atlantic thru a deep gorge, wide enough to serve as an admirable highway, altho the river itself is not navigable (Fig. 1). But this natural route of travel has never been utilized as a gateway to the interior, due to the fact that until the early decades of the 19th century, the mountains and lower course of the river were inhabited by savage and warlike Indians (Puri and Aimoré) who made the passage so dangerous that this route and the middle sections of the coast were avoided. The gold and diamonds from Minas Geraes were brought to the coast over the difficult road to Rio de Janeiro. The Rio Doce is the Mohawk Valley of Brazil.

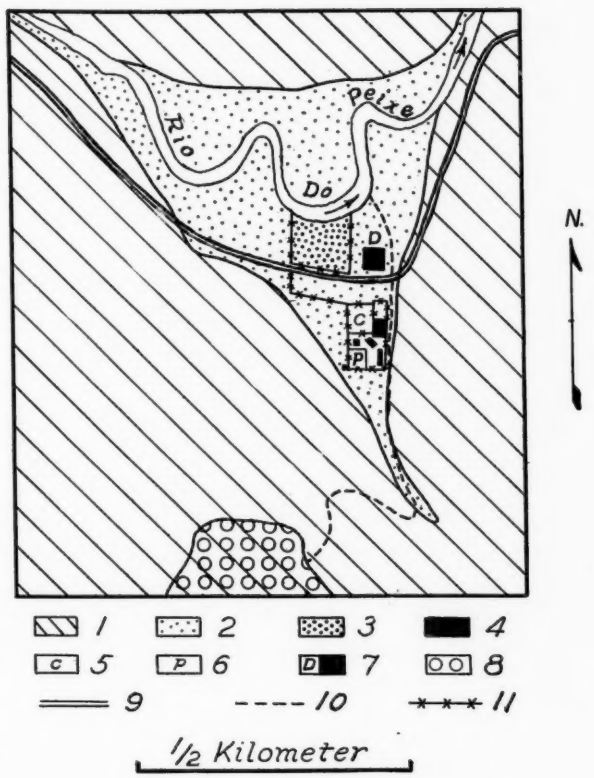



FIG. 2. A Fazenda in Minas Geraes

1. Hill slopes. 2. Local terrace flat along the Rio de Peixe. 3. Garden plat; mixture of maize, rice, beans, manioc, sugar, and bananas. 4. Buildings. 5. Corral. 6. Coffee drying platform. 7. Residence. 8. Area near hilltop planted to coffee. 9. Road from Antonio Dias to Itabira. 10. Trail. 11. Wire fences.

To travel up this valley, therefore, is to approach Minas Geraes by a side door, not yet fully opened. A railroad, starting from Victoria, reaches the valley at the head of its delta. The line has been completed to Antonio Dias, altho daily trains are run only as far as Figueira. Along the way a number of new towns have sprung up. Pioneer colonists of German, Polish, Italian, and Brazilian stock have estab-

lished themselves in the mountains of Espirito Santo during the last 50 years (Fig. 4), and find in this railroad a very welcome connection with the coast. In squeaky ox-carts (Fig. 5) they bring their small contributions of coffee to these new railroad towns and thence ship them out to Victoria.

The objective of this railroad, however, is the iron country in the Serra do Espinhaço. Here are located some of the richest iron ore bodies of the world, as yet scarcely touched. Lacking coal, most of this ore will be exported, but restrictions will be imposed by the government either of Brazil or of the states involved, requiring the smelting of at least a small part of the ore in Brazil. A new port is projected at Santa Cruz (Fig. 1), and in imagination one can see the conversion of this still very primitive country into an important industrial highway.

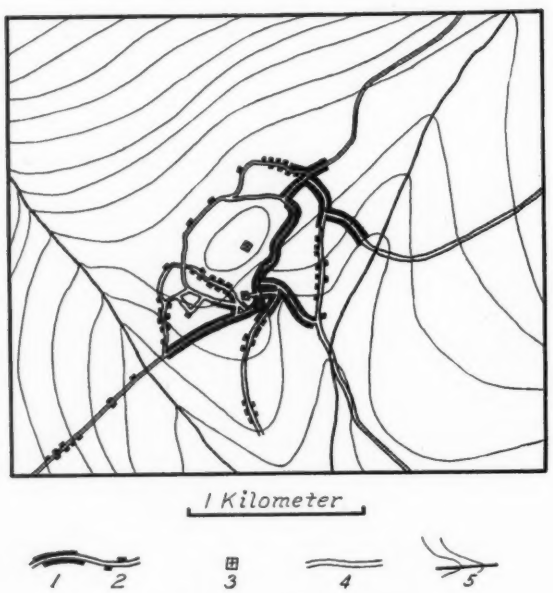



FIG. 3. Itabira in 1930

1. Roads, with closed buildings (buildings in contact). 2. Roads, with open, or isolated buildings. 3. Churches. 4. Roads without buildings. 5. Form lines, showing configuration of the surface.

The border between the state of Eppirito Santo and the state of Minas Geraes is drawn at the western edge of the coastal mountains. Abruptly the country changes. The tabular hills of a dissected plateau rise on either side of the Doce Valley. Instead of rock cliffs, common along the mountain gorge, the slopes on the plateau are soil-mantled. But Minas Geraes is not level. Narrow, youthful valleys have cut its plateaus to a relief of some 600 to 1,000 feet.

All of southeastern Minas Geraes was originally forested. Much of the forest has been cleared, however, from the high plateaus of the interior, between 1,600 and 3,200 feet above sea level. Between the new agricultural colonies of the coast and the much older mining settlements of the plateaus, such as Itabira or Santa Bar-

bara, there is a stretch of virgin highwoods, still with only scattered, isolated pioneer clearings. Figueira, near the great bend of the Rio Doce, is the last of the important recent settlements from the coast.

## FOREST CLEARINGS

For my trip beyond Figueira, the railroad company had kindly placed at my disposal a rail car (Fig. 6). We left about sunrise on the morning of the 5th of September, 1930. A heavy rain during the night had soaked the ground and the thick vegetation, and as we started off a white mist was floating thru the dark foliage of the forest. The single track passed thru miles and miles of highwoods—the giant trees, draped with lianes, literally hanging out over the narrow ribbon of cleared land. At every curve there were new and fascinating vistas of forest; but only at long intervals did we pass signs of human habitation.

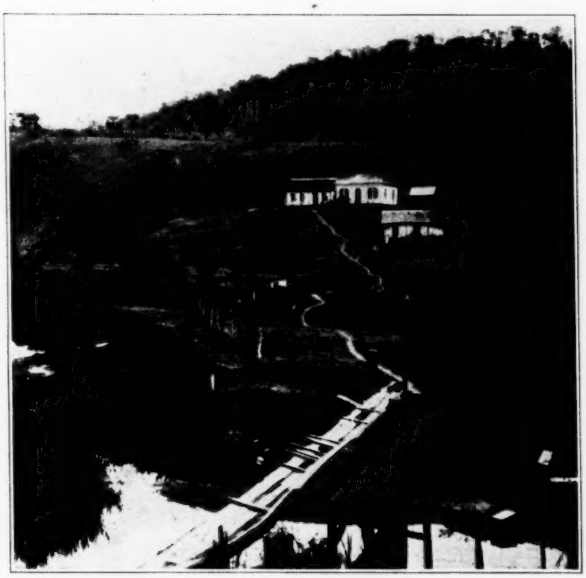


FIG. 4. Colonists on new clearings on the lower Rio Doce in Espirito Santo. Coffee is planted in a clearing on the hill. The largest house in the middle distance is more than usually substantial.

An hour or so out of Figueira, we came to a clearing and stopped to examine it. September is near the end of the "winter" dry season, at the time of year when clearings in the forest must be made. All the way up the Rio Doce valley, the air had been filled with the smoke of fires, and now we could inspect at first hand one of the clearings formed by the forest destruction. When a settler wishes to make use of a bit of new land, he must first cut down the larger trees. The fall of these big trees generally carries with it the smaller trees and lianes, so closely are the branches of the forest interlaced overhead. The rare cabinet woods of great value are carefully taken out to the railroad, which also provides a market for limited quantities of firewood and

construction timber. But for the most part the isolation of this forest would make any attempt to place its more common timbers on a market too costly. The typical Brazilian rural house is built of mud plastered on a framework of poles, so that to find a purchaser most of the construction timber of the Rio Doce would have to be shipped out of the region. The conservation of this valuable resource appeals no more to the Brazilian pioneer than did the conservation of our own forests to the settlers of our country. And so, after the fallen trees have dried, and their foliage turned brown, the debris is set on fire (Figs. 7 and 8).

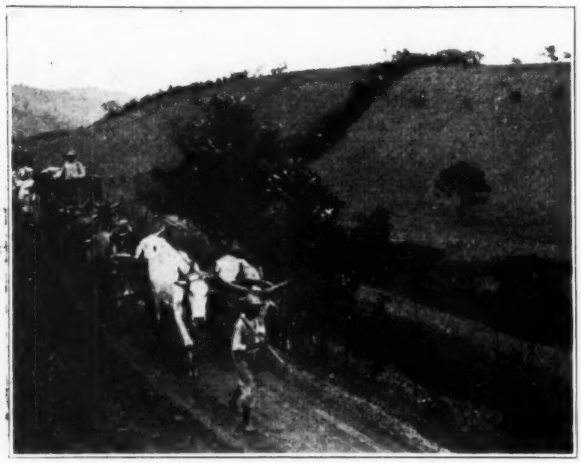


FIG. 5. Ox-Carts with squeaky, ungreased axles, bringing loads of coffee to the railroad. The tree along the road-side is a coffee tree in bloom. Maize and rice are planted in the valley, and rows of old coffee can be made out on the hill-side beyond the valley.

A forest fire in Brazil does not present the same problem which it would in the pine forests of the United States. Most of the year the forest is too wet to burn at all. Only near the end of the season of less rain has it dried out enough so that fires can make any headway. Even then, there is no danger of the fire spreading to the uncut timber beyond the clearing: in fact, the fallen trees are not completely burned. Only the leaves and branches are reduced to fine white ashes, while the ground is encumbered with the blackened trunks and stumps of the forest giants, lying in confusion in whatever way they happened to fall.

Into this still smouldering clearing comes the settler, armed with a hoe. In whatever spaces are free he stirs the surface of the ground and plants his crops—crops of maize, rice, black beans, manioc, and bananas. The settler whose clearing we were examining was making ready to plant in the opening he had burned off the day before.

The soil, however, is not rich. The belief in the great richness of tropical soils is a myth difficult to dispel. In the forests of north-

eastern United States, under the brown leaves of last year's foliage are the blackened leaves of the year before, and below that the formless black humus built up by the accumulation of leaves and twigs only slowly decaying. The black humus layer is mixed with the top layers of the soil, which is thus made brownish in color. But in the rainy tropics everything is different. The high temperatures and the humidity favor rapid decay. The floor of the unburned forest is covered with a litter of brown leaves, for during the dry season many of the trees lose their leaves, a few at a time. But when this recent forest litter is scraped up there is no black humus underneath. Decay is too rapid to permit the accumulation of partially decayed organic material left over from a year before. Right under the brown leaves only recently dropped, is the yellow clay of the soil. It can produce its best crops with the aid of the wood ashes of the burned forest; but at the end of a few seasons, this temporary richness is used up, and the yields get poorer and poorer.

FIG. 6. A rail-car in the Rio Doce Valley. The tropical rain forest, or selva, forms the background.

There was a great difference, then, between this clearing in the forest at which we were looking, and the pioneer clearings in our own forest of a century and a half ago. This Brazilian settler was not making a new home for himself and his family. This land, reclaimed from the forest at such labor, was only to be used for a short time—until the extraordinary high yields on virgin lands begin to decline. Little by little various types of weeds and grasses will come in and choke his garden. Yields will get poorer and poorer. To be sure, if care were taken properly to maintain the fertility of the soil by careful cultivation and the use of fertilizer, crops could be raised indefinitely; but with plenty of virgin land, and with labor very cheap, it is easier to clear a new patch of forest and

reap the harvests on virgin soils. Almost before the land gives out, the settler's house will need repair; but it is easier to build a new one than to repair the old one (Fig. 9). There will be little, then, to hold this pioneer on his land. By this form of migratory agriculture a few people manage to live on a large area, and to develop a landscape in which the signs of abandonment and decadence exist side by side with the signs of pioneer settlement.

We shared a meal with this settler—a meal of almost inedible chicken, and that quite palatable Brazilian combination of rice and beans, dusted with a little *farinha,* or manioc flour. After this we started again on our journey inland.

## OLD MINAS GERAES

Beyond the junction of the Rio Piracicaba (Fig. 1), we left the virgin forests and entered a very different kind of country. This was the old colonial Minas Geraes, cleared, occupied, and abandoned just as the lower Rio Doce is now being used, only some two centuries earlier. There were still patches of forest in some of the narrower valley bottoms, or on the steeper hill slopes; but most of the land was covered with grass and scattered shrubs. The original forests had not returned.

FIG. 7. A clearing ready to burn in the selva of the Rio Doce.

At Antonio Dias we reached the end of the present railroad. Construction beyond toward Itabira was still continuing in 1930, altho it has no doubt been suspended since that time. From here on the traditional mode of travel is on mule back. But the engineer in charge of construction loaned me his automobile. While the roads are simply unimproved tracks, scored by the sharp wooden wheels of the ox-carts, during the dry season it was possible to reach Itabira. Beyond Itabira a new graded dirt road reaches the railroad at Santa Barbara.

The country thru which we passed seemed mostly empty, altho

the signs of human activities were visible on all sides. The old placer gold workings had piled the gravels of the stream bottoms into a confusion of ridges and hollows, quite useless for agriculture. On many of the hill tops and sides, old abandoned coffee plantings, now brown and dead, told of the attempt of this isolated part of Brazil to grasp a share of the great coffee wealth of its rich neighbor to the south.

FIG. 8. The edge of a clearing after the burning. White ashes cover the ground. The stumps and branches of the fallen trees will decay in a year or so—meanwhile crops are planted wherever a clear space can be found. In the background is the virgin forest.

We passed a few *fazendas,* very different from the isolated mud huts of the forest clearings on the Rio Doce. The typical *fazenda* (Fig. 2) is a group of buildings not unlike a ranch in our western country. The main dwelling, altho built of mud plastered on a framework of poles, is generally whitewashed, and has doors and windows, and a red tile roof. Around the dwelling are barns, storage sheds, hen houses, and other smaller structures, as well as a corral and a carefully fenced garden patch in which there is a confusion of bananas, maize, manioc, rice, beans, and sugar. The buildings are surrounded by pastures, with herds of poor cattle gaining what sustenance they can from them. On a nearby slope—never in the valleys, altho there is no frost to enforce this traditional practice, there is a plantation of coffee, and always a platform near the *fazenda* for the drying of the product.

Life on the *fazenda* does not include many comforts as we know them, or as the Brazilians know them in more favored parts of their land. Illiteracy and isolation, however, not racial qualities, have held these people to such a primitive existence. Knowing of nothing else, they are quite contented and happy. Their lot is quite

similar to the isolated mountaineers of parts of our own country. Only in the towns are salesmen and movies bringing discontent with the established life. It is a philosophical question of some interest whether these people would on the whole be rendered happier by developing among them more wants and desires, and so a closer connection with the economic world.

FIG. 9. A typical rural house: mud plastered on a framework of poles, and covered with a roof of easily broken tiles. It is easier to build a new house than repair the old one.

Life in this part of Brazil has changed little for more than a century. A classic account of travels in this same region was published just a century ago,* by the French botanist, Saint-Hilaire. He observed the same forms of migratory agriculture; the same wasteful destruction of the forest, only the forest in those days extended westward to the slopes of the Serra do Espinhaço, and the scattered new clearings were around Itabira; he observed the same atmosphere of decadence, which he laid to the type of house so easily built that it was easier to start again than to repair. The great days of the gold period were drawing to a close at the beginning of the 19th century, so that even then the placer workings on the stream bottoms were abandoned. His description of life on a *fazenda* reveals almost the same conditions as exist today.

## ITABIRA

Late in the afternoon, my automobile clattered noisily thru the narrow, cobble-paved streets of Itabira. This little town near the eastern base of the Serra do Espinhaço, and almost in the shadow of a mountain of pure iron ore, was founded about 1720 by men who had found gold in the stream gravels nearby. I should judge it had changed little since Saint-Hilaire's time, after the gold work-

* Auguste de Saint-Hilaire, Voyage dans les Provinces de Rio de Janeiro et de Minas Geraes, Paris, 1830.

ings were no longer profitable. Yet a great future lies ahead, as one of the centers of the iron mining, and the head of the railroad to the coast.

At present it is composed of whitewashed, red tile roofed houses, placed side by side along a few narrow and winding streets (Figs. 3 and 10). The only sizeable structure is a church which, built on a commanding eminence, dominates the little community. Until recently no other form of transportation than mules and ox-carts used its streets: the automobile stage from Santa Barbara, and the new red gasoline pump of the latest type set on the street at the corner of the two hundred year old hotel, are objects which clash with the atmosphere of the place. They are but ominous signs of the violent changes which are to come.

FIG. 10. Itabira (compare with Fig. 3). The flat-topped hill in the background is solid iron ore.

# EXHIBITS OF GEOGRAPHY WORK

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Teachers of geography must plan to have materials suitable for "Open House" exhibitions, for it has become common practice in a great many schools to have these displays regularly. It is the purpose on these occasions to give parents and friends an opportunity to see what the actual work in the school is. Hence, it is essential that geography exhibits represent materials *used* by the pupils in helping them to gain geographic understandings, that is, understandings of relationships of man to natural environment. Notice that the word "used" in the foregoing statement is italicized. This is done advisedly as a warning against display of materials produced only for exhibition purposes.

Pictures, maps, grafs, and other geographic "tools" provide opportunities for interesting and attractive displays. Some of these materials which have been exhibited successfully in presenting to parents an idea of what the school is trying to give their children in the way of training in thinking geographically will be described.

## WORK REGIONS OF EUROPE

In a double cycle course an eighth grade presentation of the geography of Europe had been conducted in units of work regions instead of units of political divisions. This was done partly as a time saving device. The class met only twice a week, and it had been found very difficult previously to complete the course by using political units. The pupils had been delighted with the plan, for they felt that it was on a much higher level than their earlier work, and they were anxious to show their parents how they had studied. In the center of the space set aside for their exhibit, a work region map of Europe was placed. This map showed by numbers the eight work regions, each of which had been the basis of one unit, a legend which gave the names of the regions, and surface features were colored lightly in green and in brown to show lowlands and lands above the 1000 foot contour line, respectively. The base map used was the 204 size of Goode's series of outline maps on which the 1000 foot contour line is indicated. The pupils had marked each region as it was studied on individual maps of smaller size, which were kept in their notebooks, and this larger map had been made at the same time by one

of the more capable pupils. In the class work the pupils had been led to discover from pictures and from product maps what the outstanding kind or kinds of work were in each region. Therefore, it was decided to display a few of the most typical pictures and maps for each region. For the Mediterranean Farming and Grazing Region there were pictures of sheep grazing, of olive groves, of vineyards, of orchards of citrus fruits, of fields of wheat as well as the appropriate maps taken from Geography of the World's Agriculture by Finch and Baker. For the Central European Mixed Farming Region the maps showing distribution of corn and cattle in Europe were used to bring out the outstanding differences between this region and the Mediterranean Farming and Grazing Region. Pictures of forest work, of dairying, of valley farmlands, and of mountain sheep grazing were selected to show the work of the Highland Logging, Farming, and Grazing Region. In order to show the leading branches of work in the Northwestern European Manufacturing and Commercial Region pictures of steel mills, textile factories, potteries, shipbuilding yards, chemical works, collieries, railroad terminals and yards, and port scenes were shown. The crop maps showing distribution of sugar beets, wheat, forage and root crops, rye, barley, oats, and potatoes were added to indicate the outstanding land uses of the Northwestern Farming Region and of the Russian Farming Region. Pictures showing logging, fishing, and a small clearing of farm land distinguished the Northern Logging, Fishing, and Farming Region, while a picture of a reindeer hunt suggested the Nomadic Fishing and Hunting Region. These mounted pictures and maps were placed around the work region map, and strings were fastened to the pictures and maps joining all those that belonged to one region and extending to the corresponding place on the map. In the class work the pupils had made climatic charts showing temperature and rainfall data for type stations in each region to help to explain the differences in land occupance. A set of these grafs was added to the display with strings extending from each graf to the region for which it was typical. To help to explain the importance and the distribution of manufacturing, data obtained from the Commerce Yearbook had been used to make cartographs showing production of coal and of iron and developed water power. These maps were then included in the display. As a summary exercise for the study of Europe, a map had been made showing the rank of the countries of Europe on the basis of their international trade and the pupils had written papers explaining the facts shown by the map.

One of these maps and some of the papers completed this display. A capable boy represented his class to explain to the visitors what the display meant.

### UNITED STATES

A seventh grade class after completing a study of the United States exhibited the following. On an outline map of the United States carefully traced on beaver board the pupils showed various distributions with thumb tacks with different colored heads. Data[1] were obtained from the Statistical Abstract of the United States. Value of mineral production by states, value of manufacturing industries by states, production of cotton, wheat, corn, and other crops by states were among the distributions shown. The pupils were able to give many facts which helped to explain what they had shown. For example, they referred to maps showing length of growing seasons, annual precipitation, surface, and soil, which they had been in the habit of using, to help to explain to their visitors the crop distributions they had shown. Farm diagrams indicating how the acreage on type farms in various regions of the United States is divided among the different crops and farm buildings together with calendars of farm operations for each region, climatic grafs, and pictorial grafs showing how products are used were made during the assimilation period to help the pupils to gain understandings of the geographic personalities of the various farming regions of the country. Some of the more capable pupils made copies of these charts on a larger scale and in bright colors for the exhibit.

### UNITED STATES AND ITS WORLD RELATIONS

In a study of the United States and its world relations the pupils transferred data concerning foreign trade from the Commerce Yearbook on to grafs and cartographs which became the basis of the study and which proved of unusual interest to the parents. Among the grafs used were those showing rank of countries in value of their foreign trade, principal commodities in export trade, principal commodities in import trade, and sources and destinations of these commodities. As an aid in the explanation of the trade facts, grafs showing rank of countries in size, in population, in percentage of land in crops, in production of wheat, of cotton, of corn, of coal, of petroleum, of iron ore, and of other products were made. Since time was an important element, the work of making the grafs was

[1] Most of these exercises could be carried out by children at a lower level if given sufficient help in handling the statistical data.

divided among the members of the class and the entire class had the use of all the grafs in the class presentation and explanation. Since the bar graf is the simplest to make it was the one used in most cases. Graf paper 18 by 27 inches was used, and the bars were made with glued tape which helped to lessen the time taken in making the grafs. This tape can be obtained in bright colors and the display can be attractive and colorful as well as very useful. Another class punched dots out of this same paper tape and used the dots on world outline maps showing the same data in the form of cartographs. An advantage of the cartograph was that the routes taken by the commodities to or from United States can be shown approximately, thus bringing out the high rank of our Atlantic ports. Pictorial grafs using bushel baskets, bales, oil tanks, dollar signs, or other appropriate symbols as *units* have been used to some extent. Here a warning may be in place. The mathematics involved in showing comparisons by relative size of two solids is too complicated to attempt that type of grafing with children. As a summary exercise for the unit on the United States and its world relations, the pupils made two colored maps, one showing rank of countries in value of our imports from them and the other rank of countries in value of our exports to them obtaining their data from the Commerce Yearbook. An explanation of the facts shown on these maps and grafs by the pupils gave the parents a good idea of how the children had been learning to appreciate our dependence on other lands for markets for our surplus products and as sources of materials needed to maintain our standard of living.

### OUR STATE

After a reconnaissance survey of our state by a study of pictures of how the people are using the lands and waters of our state the pupils asked these questions: How does our state rank among other states? Which of these kinds of work engage the greatest number of people? Which produce the greatest income? How are they distributed? and What reasons for these facts can we discover? In answering these questions statistical data available in the Statistical Abstract of the United States and in several state publications were translated into bar grafs and isopleth maps; and maps showing soils, length of growing seasons, temperatures, rainfall, topography, geographic regions, cities, railroads, and distribution of crops and livestock were called into use. Among the titles of the grafs shown were the following, Rank of States in Amount of Developed Water Power, Rank of States in Value of Farm Products,

Rank of States in Production of Minerals, of Lumber, of Manufactured Products, of Dairy Products, etc., Number of People in State Engaged in Various Occupations, Rank in Value of Products of Various Industries, Rank in Value of Types of Manufactured Goods. In order to give a better picture of the distribution of people and of crops, the pupils were taught to draw isopleth maps showing ratios of population to area and of various crop lands to total crop land. Among the titles of these maps were the following: Ratio of Population to Area in Square Miles, Ratio of Land in Corn to Total Land in Crops, Ratio of Livestock Units to Land in Crops, Ratio of Milk Production to Land in Crops, Utilization of Milk. With these materials the pupils were able to explain to their parents many of the advantages and some of the disadvantages of our state.

### OTHER DISPLAYS

A great many other displays of similar materials can be arranged as the direct outgrowth of the geography class work. Sometimes a unit may have been motivated by the construction of a graf before the class. For example, in introducing a unit on the Union of South Africa a rectangle had been drawn on a large cardboard to represent the area of the Union. Three pieces of colored paper had been cut out to the same scale to represent, respectively, the areas of Britain, France, and Germany. One at a time these rectangles were pasted on the large rectangle so that the pupils saw that the Union of South Africa is about the same size as these three important European nations together. Figures of little men had been cut out of black tape, each figure to represent 7,000,000 people. Six figures were pasted beside the rectangle representing Britain, six beside the French, and nine beside that representing Germany, a total of twenty-one figures. Then one figure was placed at the other side of the large rectangle to represent the population of the Union, thus bringing out strikingly its relatively sparse population. A graf of this kind could be built before the visitors by the pupils themselves introducing a trip thru the Union of South Africa, which they have planned, to present in a group of carefully selected pictures, which can be arranged and numbered to correspond to numbers appearing on the route indicated on an outline map. Grafs showing the value of the commodities in the export and import trade of the South American countries have been used as the basis for summaries bringing out the personalities of these countries. Carto-

graphs showing distributions of population, of crops, of livestock, of mineral production, of lumber products in the states of Australia formed a basis for a study of the country. The pupils' notebooks have been put out for the parents' inspection or pages from them showing organization of facts have been mounted and displayed. It seems unnecessary to describe any more of the materials which have been used successfully.

## CONCLUSION

Some important teaching principles have been adhered to in the exhibit materials described. First, the materials all had a definite purpose and that purpose led to the attainment of a worthwhile geographic understanding. In some cases the original purpose was to motivate a unit by presenting disconcerting data which raised questions for study. Others had been made as an activity connected with the assimilation of facts needed in gaining the understanding sought. Of course, these activities representing manual efforts made up only a small part of the mental pupil activity required. Several exhibits represented materials which formed the basis of a testing device, an application of the unit understanding. Secondly, all facts were shown in such a way that they were an accurate and correct representation of the data. Altho the cartograph does not show actual distribution, it avoids the glaring errors so frequently found in pupil-made maps of product distributions. Again, the children *used* all kinds of maps showing natural phenomena, but they did not attempt to make inaccurate copies or enlargements of the excellent maps of this type supplied by text-books, atlases, and wall maps. The children did not make salt maps and other models[2] which are time consuming and which, at their level, the pupils cannot produce with accuracy and therefore the maps or models cannot make any real contribution toward the attainment of a geographic understanding. Accuracy is an important factor in geographic thinking and it is the teachers' duty to direct the activities of their pupils toward accurate and worthwhile results and not toward spectacular show or display. Thirdly, the materials not only made a contribution toward the understanding sought, but were used because they seemed the materials best able to make that contribution at the level

[2] The complicated mathematics and the many other skills required in making models may be realized by referring to Mrs. Viva Dutton Martin's description of the construction of an excellent, accurate model in *School Science and Mathematics*, January, 1932.

of these pupils, with the other materials available, and in the time alloted. Some textbooks supply motivation material, assimilation material, and application material and therefore it would no doubt be a waste of time to produce something else. At a higher level students may be able to draw the desired conclusions directly from statistics and so the time needed to make the grafs would better be used in another may.

*Materials Used by the Pupils in Gaining Geographic Understandings* is the slogan geography teachers may well adopt in planning for exhibits.

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## GEOGRAPHY IN DETROIT SENIOR HIGH SCHOOLS

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Three types of geography courses are taught in seventeen of the eighteen high schools of Detroit. In one school, the only school that has a separate geography department, a course in physiography or physical geography is offered as an elective. One semester of commercial geography is required in the Commercial, Home Economics, and Dressmaking curricula. One year of social geography is required in the General and Mechanical curricula and elective in other curricula.

Since the courses in physiography and commercial geography are the same courses that have long been familiar, I shall use the brief space at my disposal to discuss the course in social geography as it is offered in Detroit senior high schools.

### SOCIAL GEOGRAPHY

The course in social geography was added to the high school curricula about three years ago when the General Curriculum was organized for those students who wished to graduate from high school but who did not expect to go to college nor wished to take a commercial or mechanical course.

Social geography, as the name implies, emphasizes man and his environmental relationships, rather than the physical world in which he lives. The new geography is a study of the basic factors essential to the understanding of the world today and of the various

civilizations. We believe that knowledge leads to understanding, and understanding to sympathy and good will. "To understand and appreciate the contributions which each nation makes to the world's welfare is one of the surest ways of developing good will among all peoples. Anything that interferes with or helps in the growth of any one nation is, therefore, a matter of concern to all other nations."[1]

The purpose of social geography may be stated further in the words of two other recent writers: "Our present age more than any other in the world's history, is intensely concerned with the problem of international relations. Children of today are going to solve the problems of tomorrow. Texts and teachers should only show the way to truth, the pupil must find the truth himself. He must make his own decisions about water power, the tariff, etc., but he must be provided with every facility for making such decisions."[2] The emphasis of the course may be stated as a study of the people of the world today in their relation with their natural environment.

## THE UNIT ORGANIZATION

In order to give our high school pupils some training in facing and thinking thru present day problems the course of study in social geography has been organized with this purpose in view. The course is first divided into the following large units:

### Geography One—General

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|---|---|---|
| Unit | I. | The Earth and Its Neighbors |
| Unit | II. | The Interdependence of Men, Regions, and Nations |
| Unit | III. | The British Empire |
| Unit | IV. | Northwestern Europe |
| Unit | V. | Southwestern Europe |
| Unit | VI. | Eastern Europe |
| Unit | VII. | Asia and Africa |

### Geography Two—United States

| | | |
|---|---|---|
| Unit | I. | The Basis of Our Prosperity |
| Unit | II. | Agriculture a Basic Industry |
| Unit | III. | The Extractive Industries |
| Unit | IV. | Manufacturing in the United States |
| Unit | V. | Trade, Transportation and Communication |

[1] Packard & Sinnott: Nations as Neighbors, pp. v. The Macmillan Company, New York (1930).

[2] Stull & Hatch: Our World Today, p. 111. Allyn & Bacon, New York (1931).

Unit VI. Territories and Dependencies of the United States
Unit VII. Latin America
Unit VIII. Michigan and Detroit

Each of the above units is divided into a small number of problems for study and discussion by the class. The following problem from Unit III of Course One will serve to illustrate:

TOPIC 2. BRITISH MANUFACTURES

The Problem: Great Britain as a nation depends very largely upon its manufactures. Our problem is to understand the factors which underlie this fact.

After each problem definite references are given to the text and other books where several copies are available in the different schools. A third part of each problem in the course of study consists of "Points to Emphasize." These points are not to be considered an outline of the problem but instead are intended as suggestions only to aid the teacher in making his or her own plans.

The following, is a typical problem outline.

TOPIC 1. THE IMPORTANCE OF AGRICULTURE

The Problem: The foods of the world are largely produced on its farms. Farming is the work of nearly one-half of our people. Our problem is to understand the importance of agriculture to America and of its products to the world.

References: Branom & Ganey: Our World, 28-38; Packard & Sinnott: Nations as Neighbors, 35-55; Whitbeck: High School Geography, 70-75.

Points to Emphasize: 1. The meaning of agriculture; 2. Why agriculture is important; 3. How agriculture depends upon nature; 4. How the government aids agriculture; 5. Farming in dry sections; 6. Science in farming.

Following the problems is a list of "Supplementary Topical Studies." These studies give references to a number of books that are less accessible but which make it possible for those pupils who are able to do more advanced work to do so.

The unit in the course of study ends with a list of "Problems for a Summary Discussion." These problems are of the shorter kind but are stated in such a way as to call for the organized knowledge of the entire unit for their answer.

## METHOD WITHIN THE UNIT

The points of method that are emphasized in teaching a unit are (1) the introduction or presentation of the unit, (2) supervised study, (3) socialized discussion, and (4) a summarizing or generalizing of the unit following the study of the problems.

In the introductory lesson which is largely a teacher lesson, an

attempt is made to give the pupils a stimulating preview of the unit. This lesson should fix in the mind of the student the unit objectives so that he may proceed with his study of the unit with definite goals in mind. In this way the student is working toward something definite instead of working along for whatever may turn up.

The laboratory method of instruction in geography as well as in that of the other social studies has won favor among the teachers of Detroit high schools. "The features of the laboratory method of teaching when applied to the social studies are (1) the project or problem as a stimulus, (2) the laboratory method of work, and (3) the supervision of study by the teacher."[3]

It has taken a long time for some teachers to be willing to give up the daily recitation. And it is only within very recent years that teachers in general have discovered that class work is more satisfactory in most every way when part of the class time is devoted to supervised study. Teachers have always wished that students knew better how to study. One of the special advantages of the supervised study period is the opportunity that it gives the teacher of discovering and correcting faulty methods of work on the part of individual pupils.

Following a sufficient time for the study of a lesson-problem the class resolves itself into a socialized discussion group under the leadership of the teacher. The subject for discussion is the problem. The discussion does not follow the line of a pre-arranged set of questions but is guided by the interest of the members of the class with the teacher ever alert to see that certain pupils do not go rambling.

The final phase of the study of a unit is the summary or generalization. This naturally takes the form of a socialized discussion but instead of dealing with a single problem, the discussion is on the unit as a whole. In this way the study becomes broader than it could possibly be from the study of the individual problems alone.

## CURRENT EVENTS AND PROBLEMS

A vital part of the classroom work in social geography is the study of current events and problems in the light of their geographic relationships. Some teachers still feel like one with whom I was talking not long ago who told, in a half apologetic way, of "taking

[3] C. C. Barnes. The Laboratory Method of Teaching History, p. 4. Houghton Mifflin Co. 1929.

time out of the lesson to discuss" a current topic that was crowded full of geography of the most vital kind. The prize teachers are the ones who are able to see in the problems of the day the teachings that are worth while.

### THE TEXTBOOK

In selecting a text for the course in social geography, which is normally offered to tenth grade pupils, we looked for a text that combined two elements, namely, emphasis on the social side of the subject, and simplicity of style and vocabulary. We make no apology for choosing a book for use in the tenth grade which was written for the seventh or eighth grade. Probably more of this would be done if suitable books were available. It is a fairly simple matter to supplement the text for those pupils who can do more than the basic text work, and, on the other hand, it is a very simple matter to kill interest in a subject by requiring pupils to study a text that is too difficult for them.

### STUDENTS ENROLLED

More than 4500 students are enrolled at the present time in the geography classes of seventeen senior high schools. About 1000 are taking commercial geography, and the rest or approximately 3500 are enrolled in the two semester course of social geography. The number of geography sections in the various schools ranges from one small section in one school to fourteen sections enrolling more than 600 students in another.

### GEOGRAPHY TEACHERS

When our course in social geography went into effect three years ago, it was difficult to find teachers in our high schools who could teach the classes. For a number of years we have been attempting to fill our social science positions in junior and senior high schools with teachers who were familiar with not only one but all of the social studies. We have insisted on our new teachers presenting evidence of training in sociology, political science, and economics, as well as the various phases of history. We believe that teachers should be so well-informed in the various subjects that they are asked to teach that they can give the major portion of their time to instruction. We have, therefore, during the past two or three years been looking for trained geography teachers, until at

the present time we can classify twenty-four as such. These twenty-four teachers have to their credit a total of 571 semester hours of college geography, or an average of 23.8 semester hours. These teachers have been obtained in three different ways: (1) new teachers with geography training brought into the school system, (2) elementary teachers trained in geography who were promoted and transferred to high school work, and (3) high school teachers who have taken geography courses during summers and in extension while teaching.

It would be difficult to predict what our geography situation will be three years hence from our experience of the past three years, but of one thing we are sure: the geography situation in Detroit high schools is in a very healthy condition at the present time and all signs point to continued growth.

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## TWO ASPECTS OF HAWAII

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There are, of course, more than two aspects of Hawaii that are interesting to the visitor from the mainland. If he is a physiographer the great variety of phenomena resulting from vulcanism and the spectacle of actual volcanic activity (if one is fortunate) give plenty of opportunity for checking a reading knowledge by observation of the real occurrences. And one discovers very fascinating physiographic features that are given very little attention in books. Thus on the northern coast of the island of Hawaii, a coast against which the trade wind surf beats endlessly, one sees from the deck of the passing ship a veritable panorama of waterfalls plunging directly into the sea. These falls are of different heights, their valleys are young and have hanging ends. These falls have their origin in the development of a great cliff by wave attack on the sea end of lava flows. The consequent streams that come down over the surfaces of these flows are abundantly supplied with water from the heavy precipitation on the upper slopes of the windward side of the great cone of Mauna Kea.

There are, however, two aspects of Hawaii not directly connected with the scenic interests of the islands that invite the espe-

cial attention of the wandering geographer. One is the people, the other the cultivation and harvest of the sugar cane.

In Hawaii, as in Porto Rico, one sees the effects of the American régime applied in tropical islands with dense populations of advanced cultural status, and in close touch with the home country. The Philippines are different, partly because they are remote, part-

FIG. 1. Parents and friends gathered on the pier at Hilo, Hawaii, to say goodby to undergraduates returning at the end of the Christmas vacation to resume their studies at the University of Hawaii at Honolulu. Note the mixture of races. (Photo by O. D. von Engeln.)

ly because they are so vast and uncultivated, partly because their inhabitants comprise an upper class of intelligent persons and a lower class of varied unmixed racial stocks that includes thousands of savages.

In both Porto Rico and Hawaii the United States is commonly referred to as the mainland; in both places the populations in the mass appear to be happy. By contrast the inhabitants of other tropical islands under British, French, or Dutch governments have in general a discontented, repressed, almost sullen air. In such

places one becomes conscious of the white man's burden. In Hawaii all babies are laughing, all children are playing gleefully.

One of the pictures reproduced here shows the crowd gathered at the dock of Hilo to see undergraduates off to resume their studies at the University of Hawaii in Honolulu after the Christmas vaca-

FIG. 2. Flume conveying cut sugar cane from the fields on the middle slopes of Mauna Kea to a mill on the coast. (Photo by O. D. von Engeln.)

tion. The date is January 5. The picture discloses very effectively the extraordinarily varied and amicable mixture of races and nationalities that has and is taking place here. It is also to be noted that this crowd is representative of socially successful people. Here Portuguese, Hawaiians, Scandinavians, Americans, Germans, occasionally even Chinese and Japanese intermarry. The children and grandchildren of such unions are physically beautiful. A professor at the University of Hawaii made the remark that a collection of senior class pictures, male and female, could be mistaken for an assortment of movie star portraits. A handsome guide on

the trip around Kilauea who was of Portuguese-Hawaiian-American descent proved to be a very pleasant person who played the ukulele and sang with such feeling as to entrance the ladies in the party. The great problem in Hawaii now is to find suitable occupations for all such attractive educated persons.

This difficulty arises in part from the other aspect of Hawaii, the utilization of its lands for plantation cultures, sugar-cane chiefly. The conditions of such cultivation are large tracts owned by one person or by a corporation, and the employment of a number of field workers, unskilled labor, and comparatively few trained mechanics and business people. These circumstances provide very few new opportunities for graduates of high schools and colleges.

If the human problem, due in part to the plantation development, is thus hard, the cultivation of the cane on the island of Hawaii is peculiarly favored by climate, soil, and topography. Great lava flows of various ages slope down gently from the summit of Mauna Kea northward to the sea. These flows terminate in the sea cliffs mentioned above. At some of the sites where valleys from stream erosion have been cut sufficiently deep to afford a graded way from the upper surface of the flows to sea level and where there is, accordingly, a shelf of level land at their mouths a sugar mill and warehouse have been built.

The cane grows in a broad belt girdled around the northern face of the mountain. At a higher level there are brown-red rock slopes, and the top of the cone, elevation 13,805 feet above the sea, is snow capped in December. The picture thus created, viewed from the sea, is fully the equal of Japan's famous Fujiyama. The deep blue tropical ocean, the water-falls, with coconut palms along the shore, the vivid green of the cane belt, then the slopes of reddish lava rock, and finally the glistening white of the summit snows making the conical peak stand out against the sky, provide a maximum of variety in aspect and of intensity of color.

Decomposition of the lava rock by chemical weathering and rain wash provides the soil in which the cane is planted. This decomposition is rapid because of the constant supply of moisture brought by the trade winds. This moisture condenses especially on the upper slopes of the windward side of the cone. The annual rainfall there, up to 250 inches, is one of the heaviest in the world. Accordingly the many streams down the mountain side are brimful from their source points at the edge of the snow cap. In the level of the cane belt the abundant flow of these streams is everywhere diverted into

long wooden flumes which serve as continuous conveyors of the cut cane to the mills. The second picture shows one of these flumes floating the cane. One would surmise that such immersion might dissolve out a considerable fraction of the sweet juices, but it is asserted that there is practically no loss of this kind. In fact the yield of sugar an acre here is the highest known anywhere. Besides such service the water of these streams in its steep descent can be used for irrigation, as the heaviest rains are on the higher slopes, and to develop power to grind the cane. Hence the trade wind may be regarded as the ultimate factor in Hawaiian sugar production because it brings the water that makes the soil, that supplies the cane with juice, that conveys the cane to the mill and develops the power to grind it for sugar.

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## AN ORIENTATION UNIT IN GEOGRAPHY

SUE HOFFMAN
State Normal School, Ellensburg, Washington

Our fourth grade geography involves the study of the food, clothing, shelter, and transportation of the people thruout the world and of how the physical environment influences all these things and man's activities in general.

### THE THEME AND THE AIM OF THE UNIT

At the beginning of the school year, knowing that animals make a special appeal to fourth grade pupils, we worked out an animal unit in which we studied the typical animals of the different continents, my aim being to give the pupils a basic knowledge of the world as a foundation on which to build the more detailed study which was to follow later.

### VISITING THE VARIOUS ANIMAL REGIONS

The study was initiated thru the book "Jungle Babies" by Edyth Kaigh Eustace. It is a book of stories describing animal life in Central Africa. I read the stories to the children and they took imaginary journeys to the jungles of Africa in which the animals live. From the stories and discussions they learned about the climate and vegetation of the regions as well as about the animals themselves including their uses.

From the jungles of Africa we traveled north to the Sahara where we studied the camel. From this study the pupils got an idea of a desert, an oasis, and of desert life in general.

The kangaroo as a pouch animal and as a native only of Australia was a source of great interest to the children. They learned, among other things, that it is a valuable source of leather.

In Europe the goat gave the children an insight into the mountainous regions which it inhabits.

Our animal study ended with a trip to the "Far North" there renewing the children's interest in the animals of that region about which they had learned in their Eskimo study in the third grade.

### SUMMARY OF THE GEOGRAPHY KNOWLEDGE AND THE CONCEPTS GAINED

This study of the animals gave the pupils a general knowledge of the different type regions as the hot moist, the desert, the mountainous, and the cold regions. It also aroused an interest in world geography and furnished a subject for many related activities as well as giving an appreciation for animals and animal stories.

By taking imaginary trips to the different animal homes the children learned the names of the oceans, some of the principal rivers, and the means of transportation on each.

From the stories they learned the names of the continents, and of the chief countries. They each filled in all these geography facts on an outline map of the world. They also located the equator on the map. The globe, wall maps, and pictures were in constant use during the whole study.

### RELATED ACTIVITIES IN ENGLISH AND ART

During the English period the pupils wrote or told stories about the animals, reproducing stories that had been read to them or that they had read for themselves. As a review of the work they got great enjoyment out of writing riddles and reading them to the rest of the class. Others in the class guessed the riddles. The following is a sample of one of them:

> I am the largest animal of the jungles. My ears are often fifteen feet around. I have a trunk but there is no key to my trunk. I am sometimes in the circus. What am I?

As a special exercise for assembly we gave an animal characterization. We made an animal book-house of screens, one part of the screen opening as a door. As an introduction to the exercise

the first stanza of the poem, "Book Houses" was recited by a child who opened the cover of a book of animal stories as she recited:

I always think the cover
Of a book is like a door
Which opens into someone's house
Where I've not been before.

Then the lion, as king of the forest, opened the door of the book-house and let his jungle people out. Each one in turn told his story as he came out.

In the art period the children drew pictures of the animals illustrating the stories. These are some of the subjects: an elephant taking a mud bath; a giraffe eating leaves from the top of a tall tree; a kangaroo eating grass on the grassy plains of Australia.

Another activity was making up original stories about particular animals forming a little booklet with illustrations on each page.

### PERMANENT RECORD OF THE UNIT

As a permanent record of the unit we made a class book in which we put one of the outline maps of the world, some of the pictures the children had drawn and a story of each picture, animal book reports, the animal games, and the riddles.

### INTEREST IN AND APPRECIATION OF LIBRARY BOOKS

During all the study I was careful to see that there were plenty of animal story books on our room library shelf and during the free reading period the children became interested in reading books thru their interest in the animal stories.

This unit covered a period of about four weeks and the interest and understanding shown, and the knowledge gained in the more detailed study that followed indicated that the time was well spent.

# INTEREST-STIMULATING DEVICE

## ADVENTURES IN "GUEST" GEOGRAPHY

Why is it that teachers of geography are so quick to see the value of visual aids in the study of the social sciences, and so slow to sense the greater value of personal contacts? We search for fresh material, books, pictures, maps, but often overlook the chance to give to pupils the great joy and privilege of intimate personal acquaintance with people representative of the human life we seek to portray.

At once the question arises, "How shall we secure such people?" The answer is easy. An alert interest and a friendly spirit are all that we need. To our doors will come visitors who will gladly interpret the life of far-away places. Then, too, as the community becomes aware of our plans, parents, friends, and the children themselves will assist in providing interesting guests. In support of this statement I should like to submit a few happy experiences which our school has had in search of "living geography." It is not that these contacts are so significant in themselves, but they are offered in the hope that beginning teachers may be encouraged to experiment along the same line, with pleasure and profit to themselves and to their pupils.

Ours is a rural school, set in the farming section of a small college town. Because we are a little group our program is so flexible that we can drop everything to take advantage of the presence of an interesting visitor, even if unexpected. We prefer, however, to plan for their visits that the children may have the joy of anticipation. The following describes three such guest experiences.

Miss N. is a Japanese student at a neighboring college. She is demure and charming, a beautiful example of the culture and courtesy of her race. We owe her visits to the friendliness of our primary teacher who saw her daily on the streetcar, and sought her acquaintance. It took no urging to get Miss N. to come to our school, for she was as eager to see an American country school in operation as we were to learn of Japan. Her difficulty in expressing herself in English she overcame by sketching with colored crayons Japanese scenes on our blackboards. Whatever the children asked about appeared like magic by two or three strokes from her clever fingers. Home-life and school-life, Japan at work and at play, it was all there. She brought us Japanese picture books and read from them, and sang Japanese songs. On another day she came when we were preparing for a pageant requiring a Japanese character. All by hand she made a "really-truly" kimono, and taught a Japanese dance. Crowning joy and subtle flattery, she drew a picture of our first grade reading class to take back to Japan! When we mention Japan now what are our children seeing? Why, a lovely little girl, interpreting to us the beauties of the land she loved.

Last fall our fourth grade studied Indians! We read stories and poems, studied pictures, made original pictures, molded cliff-dwellings, and built a life-size wigwam and canoe. We needed the finishing touch of a personality, and it came in the form of a full-blooded Dakota Indian. What a rare morning we had on the day of his visit! Understanding children, he talked to them of significant events of his boyhood, and pictured for them the bright and dark sides of Indian life today. Cleverly, and without undue "preaching," he drove home the feeling of the white man's responsibility for the future welfare of the Indians.

Finally, the loveliest Christmas that our school has ever spent is associated with the visit of Miss K., a German teacher in a well-known girls' preparatory school. She came to the local church to give a program of German songs, accompanying herself on that interesting instrument, the seven-stringed lute. At the close of the program one of my boys said to me, "Gee, I wish she would come to school," and I repeated the remark to her. "Oh," she said, "would they let me?" So on the day we closed for

our Christmas vacation she came, bringing her precious lute. Immediately we were transported, in imagination, to the Black Forest of Germany. Step by step she took us thru the week of festivities leading to Christmas, mingling wisely the humor and the reverence of age-old Yuletide customs. Little intimate home things she told us, that an outsider would never know. Then she sang for us; quaint folk-songs, and funny little songs for children which she first translated for us. Last came the Christmas songs, and now see how all things united to make this a happy occasion. Our young assistant that year, by rare good luck, was a girl of German parentage, who had spoken the German language from childhood, so she had taught the children the German words of "O Tannenbaum" and "Stille Nacht." Shall I ever forget the lovely hushed tone in which Miss K. and the children sang together that sweetest of all Christmas hymns, "Silent Night," with the harp-like chords of the lute making an exquisite background for the young voices!

Our pleasure was deepened by the presence of the assistant's German mother, who came twelve miles to hear the songs of the Fatherland. True to Christmas customs she brought us pepper-cakes, and cakes spiced with poppy-seed; one little loaf, made after an especially prized recipe, she brought to Miss K. The children, not to be out-done, presented Miss K. with a box of candy which they had made the previous day on the school oil-stove. It was all so friendly and homelike that her eyes were wet as she said goodbye. When somebody says Germany do we think of the late war? Oh, no; we think of Christmas in the Black Forest.

These are but samples. Over a period of years we have accumulated a long list of such contacts: teachers returned from work in China, generously sharing quaint souvenirs; a pupil's mother who spent the summer in Europe; and many visitors from remote parts of the United States. Always we are looking for more color to weave into the bright fabric of human geography.

CORA M. HOWLETT

*South Amherst School*
*South Amherst, Massachusetts*

## NOTE

**Send descriptions of your interest-stimulating devices to the JOURNAL. We will be pleased to pass them on, as an aid to others, thru the pages of the JOURNAL. There must be hundreds of teachers who have worked out these aids in teaching. Make your description brief, clear, and exact so that another teacher may follow your directions.**

**EDITOR**

# EDITORIAL NOTES AND NEWS

The National Council of Geography Teachers was incorporated recently under the laws of the District of Columbia. The details of incorporation were cared for by the Research-Finance Committee consisting of Professors R. H. Whitbeck, R. M. Brown, and C. H. Cooper. Incorporation was completed by R. H. Whitbeck, Carrie H. Shipley and Mrs. Curtis Garrison, the last of December. This enables the National Council to receive, hold, and administer bequests, or create research endowments, and legally transact other financial matters. It represents another advance step in strength and stability of the Council.

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The next meeting of the National Council of Geography Teachers will be held at Northwestern University, December 26, 27, 1933. Plans for the meeting are now being formulated and now is the time to make plans for attendance. The attendance at this meeting should be the largest of any meeting held in recent years. Accommodations, both at the hotel and at the university are excellent. Further details will appear in the JOURNAL next autumn.

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The Association of American Geographers will hold its annual meeting at Northwestern University, December 28, 29, 30, 1933. These two meetings offer a geographical feast to the Middle West.

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The United States Geological Survey reports that the total installed capacity of water-power plants in the United States, on January 1, 1933, was 15,817,941 horsepower, which is an increase during the year of 255,000 horsepower. On the basis of present methods of installation only about 20 per cent of the nation's water-power resources are developed. Canada, with 7,045,000 horsepower, ranks next to the United States and the combined capacity of the water wheels in the two countries is about equal to that of the rest of the world.

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The Seminar in Mexico, conducted by the Committee on Cultural Relations with Latin America, will be held in Cuernavaca and Mexico City, July 8-28, 1933. The Seminar is an educational venture in international relations and should be of concern to every teacher. The program consists of lectures by eminent leaders and numerous field trips. Opportunity is also afforded to extend the period of study to other parts of Mexico. Further details of the plans for the coming session may be attained by addressing the Director, 112 East 19th St., New York City.

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We offer an apology for an error in the February issue, page 66, line 4. It should read "more than four hundred million people . . ." Please correct your copy.

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Instructors in the Department of Geography in the University of California at Los Angeles are cooperating with the California Alumni Association in contributing a series of sixteen addresses to the radio offering of the University. One lecture weekly under the general title "Studies in Human Geography" is being broadcast simultaneously from San Francisco and Hollywood. The titles indicate the wide range of geographical subjects considered: What is Human Geography?; The Mountain Republic of San Marino; The Site of Early Los Angeles; Mediterranean Lands Other Than Our Own; The Pressure of Population in Japan; California's Debt to Her Plant Immigrants; The Problem of Water Supply in a Rural District; The Problem of Water Supply in an Urban Center; Land Utilization in the Perris Valley; Foreign Colonies in Cali-

fornia; Coastal Farming in Southern California; The Ocean as a Climate Maker; Rain and Rain-makers; The Harbor of Honolulu; The Political Geography of the Colorado River; Regionalism in the United States.

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The publishing houses of Harrassowitz, Leipzig, and Brill, Leiden, announce a four volume facsimile edition of Ptolemy's original maps and texts together with a monograph on the life and works of Ptolemy by Professor Fischer. This publication will constitute Volume XIX of the Codices e Vaticanis selecti. Only 350 copies will be printed.

It is interesting to note that it was Professor Fischer who discovered a copy of what is purported to be the first map bearing the name America. This is the Waldseemüller map of 1507 which appeared in the Cosmographiae Introductio. This publication which featured Amerigo Vespucci's four voyages apparently was so over-shadowed by the greater interest in Columbus' voyages that all traces of the map disappeared, until a copy was found by Professor Fischer in an old book at Württemberg in a castle formerly owned by a German mathematician and geographer. The building in which the map was produced in Saint Dié, Lorraine, is privately owned. In 1911 the Municipality of Saint Dié placed a commemorative plaque on its front wall and presented the United States with oil paintings of the authors of the publication. These paintings are in the care of the Smithsonian Institution in Washington, D.C. In 1921 members of the American Legion visited Saint Dié and placed another plaque on the house symbolizing it as the "Baptismal Font of the Americas."

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The January, 1933, bulletin of the Pan American Union contains an interesting account of the Ford Rubber Plantation at Boa Vista, Brazil. The site of the plantation has a 75 mile frontage on the Tapajoz River, 140 miles south of Santarem, and 600 miles from Belem. Several thousand acres of the jungle have already been cleared and the rolling hillsides terraced to check erosion. Nearly half a million rubber trees have been set out, the oldest of which are nearly three years of age and will be ready for tapping within four more years. Pending returns from the rubber, the tropical hardwood lumber is being marketed in the United States following an exhaustive investigation of the qualities of these woods. At the site of the deepest water frontage a dock has been built, back of which spreads a modern city which caters to the health and comfort of the several thousand people of this plantation, which is popularly known as Fordlandia.

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In view of his interest in scientific work in geophysical subjects, Dr. Burton M. Varney, Associate Professor of Geography in the University of California at Los Angeles, has been notified by the American Geophysical Union of his nomination to membership in that organization. Dr. Varney is a regular contributor to the Monthly Weather Review and is the author of the section on "Meteorology and Climatology" in "The American Yearbook" for 1932, published by the New York Times.

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The University of California Press at Berkeley has published recently a monograph on The German Colonization of Anaheim, California, by Hallock F. Raup, Associate in Geography in the University of California at Los Angeles.

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According to the U. S. Department of Agriculture, about one million farms in the United States now have electricity either from power companies or individual plants. This is nearly four times the number having electricity in 1923.

Miss Vera Rigdon, recently instructor in the geography department of the State Teachers College at Cleveland, Mississippi, is the contributing editor of the Bulletin of the Nebraska Chapter of the National Council of Geography Teachers, Vol. VII, No. 2. Miss Rigdon is at present doing graduate work in the Department of Geography at the University of Nebraska.

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Geography teachers wishing to keep their classes abreast of the times may find the following recent current events sufficiently thought-provoking to offer them to their classes for further study. Thus, some students may wish to know more about Iraq, the first of the mandated territories established after the World War to become independent and a member of the League of Nations. Others may wish to know why Peruvians recently seized from Colombia the port of Leticia. You will locate this port approximately at the place where the seventieth meridian crosses the Amazon. Similarly, one cannot help wondering why the Gran Chaco is so peculiarly attractive to both Paraguay and Bolivia as to plunge these nations into periodic warfare. Catalonia, too, must have an individuality apart from other parts of Spain to win its recent independence in local affairs tho its foreign affairs will still be controlled by Madrid.

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According to various press notices, Cosach, the Chilean Nitrate Association in which the Chilean government was part owner, has been dissolved by decree of the government.

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Teletype weather maps are one of the latest weather service aids to fliers. Every four hours at Cleveland, Kansas City, and Oakland, meteorologists prepare a weather map of their respective areas. A teletype operator at each of these stations then transmits thru the air impulses for the usual weather symbols including ceiling and visibility. These impulses then operate the keys of the receiving instruments in the teletype hookup. In this way a facsimile of the original map is made which is the exact copy of the one made a few minutes earlier by the meteorologists many miles away. About 13,000 miles of airways in the United States are now provided with this service.

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Field and Laboratory is a new semi-annual publication recently launched by the science departments of Southern Methodist University, Dallas, Texas. By offering their students, faculty, and alumni this opportunity for publication, the University hopes to promote scientific research and also give wider publicity to scientific studies dealing with the Southwest. The first issue has an article by Edwin J. Foscue of the Geography Department entitled, "The Natural Vegetation of the Lower Rio Grande Valley of Texas," one of a series of studies based on a field survey in that area during the winter of 1930-31.

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The October, 1932, number of *Teaching*, published by the Kansas State Teachers College, Emporia, Kansas, is devoted to geography. Staff members of the college contributing articles are Anne Goebel, G. A. Buzzard, and Jennie Williams.

# GEOGRAPHICAL PUBLICATIONS

## Patricia Kendall. **Come With Me to India.** 466 pp. Charles Scribner's Sons, New York. 1931.

There is much excellent information and material for the geographer in this well-written and interesting book. The book discusses the Indian question, primarily from the pro-British angle. It deals at length with the importance to modern India of the historical past, of the various invasions, the rulers, the castes, and the British. A wealth of historical material is presented. Geographical aspects of modern India appear indirectly at many points. An occasional landscape description is found, notably in the case of the Vale of Kashmir and a motor trip from Madras. In general, however, the geographical material must be gleaned by the reader from much scattered information.

Professional geographers will take decided exception to some of the statements that are made about geography. For instance it is said that "Geography reigns supreme in India. It dictates political boundaries, determines social movements and limits ethnical expansion." Even the most rabid of environmentalists would probably hesitate to claim for geography some of the things that are so lavishly thrust upon it. Further reading in the chapter discloses, however, that man and history are given due share of the credit for helping mould modern India. The same chapter then proceeds to modify somewhat the strong statement at its head with the news that "Today it (geography) is a limited monarch within, but still an absolute dictator to those without. . . . Geography is permanent king of the frontier. Its permanent law is: 'The Khyber is Key to India.' " It is obvious that Mrs. Kendall has a far different idea of geography than that of the geographer. When it is realized that her geography consists of the disposition and arrangement of mountains, rivers, and passes, etc., her statements are partially explained.

From the geographic standpoint the book has several unfortunate shortcomings. The monsoon is dismissed as volumes of water "smashing" against the Himalayan wall. The heavy rainfall of the Assam hills is stressed, and the average of the plains of India is given within the wide limits of 12 to 84 inches. Nothing directly is said of the seasonal or regional distribution of the rainfall, altho the northwestern deserts are mentioned. The trained geographer can pick up important regional differences, for the book makes ample reference to "tawny foothills," "jaundiced stretches of plains," "dusty fields," "blistering wastes," and "plains of plenty." It seems to the reviewer (speaking from a geographic viewpoint) that the general reader must have some previous geographic knowledge of India in order to understand the regional differences from the material presented. Another shortcoming is the almost complete lack of maps, something far more serious for the general reader than for the geographer. A very rough sketch map, showing the chief provinces, is found in the inside front and back covers. The only map that is directly with the text (page 13) shows but four Indian cities, Bombay, Delhi, Calcutta, and Peshawar.

The book presents much interesting and instructive material about India. The history of the country is dealt with at length. The Aryans, the Greeks, the Scythians, and the Afghans are discussed. Hinduism and Mohammedanism, and their respective rulers and champions, receive attention. Governmental problems of India and of the native states are treated.

A wealth of material on India is presented by the book. The style is interesting and holds the reader's attention. From the geographic viewpoint it is to be regretted that more of the fundamental regional differences within the country have not been treated.

LOYAL DURAND, JR.

*University of Wisconsin*

Charles C. Colby and Alice Foster. **Directed Studies in Economic Geography to accompany Economic Geography for Secondary Schools.** 136 pp. Ginn & Co., N.Y. 52 cents.

H. O. Lathrop. **Laboratory Manual in Industrial Geography.** 202 pp. American Book Co., N.Y.

William Rabenort and Elizabeth Rothschild. **Graded Drill Exercises in Geography and Map Study. How People Live.** 58 pp., New York and Far-Away Lands, 34 pp. Noble and Noble, N.Y.

The first two of these workbooks are on the level of the secondary school. The series of two booklets has been prepared for use in fourth grade—first year in geography.

*Directed Studies in Economic Geography* has been planned to accompany "Economic Geography for Secondary Schools" by the same authors, and outlines a definite program of work for each of the ten units which comprise that textbook. Pages of the textbook are cited for reading and for the working out of exercises to acquire geographic information on each of the several sub-topics of the unit under consideration.

Following the textbook assignment, investigative activities are outlined in the workbook to establish more firmly geographic understandings of the sub-topic. In the investigations, increased skill in graphical representation of geographic relationships will result from working with the numerous grafs, maps, tables, and charts. Objective checks—self tests taken after the investigations have been made—furnish the student a means of ascertaining how well he has mastered the geography, and afford him an opportunity to re-investigate if knowledge is deficient.

This workbook exemplifies the type of teaching of which we should have more. It is an illustration of the value which aids for teaching geography are likely to have when they are prepared by those who know geography, present-day objectives in education, and modern technique in teaching.

*Laboratory Manual in Industrial Geography* is well named. Dr. Lathrop has given us a workbook which may be used with any textbook. Sixteen units of work are presented on a three-level contract plan, with a time schedule suggested for completion of the units. Definite page references for each unit are made for six major textbooks. The use of references, other than textbooks, such as sources of statistics, magazine articles, and treatises in government publications is commendable.

The work is organized to secure purposeful activity on the part of the pupil thru an introductory discussion for each unit in which problematical questions are raised. After the introduction specific directions in the use of references are given, and maps and grafs are used to present geographic data. Accompanying the workbook are objective tests for the "C" and "B" levels in each unit. The "A" level is reached by collateral reading in addition to doing the work at each of the lower levels.

This workbook is another commendable aid in teaching geography in which knowledge of both modern geography and technique of teaching is manifest.

In *Graded Drill Exercises in Geography* and *Map Study* the work is based upon the new "Syllabus in Geography for the City of New York." In the words of the editors these booklets have been designed "to acquaint pupils with the essential facts for permanent retention and provide practice in map making and location of important places thruout the world." The drills are of three types: (1) testing remembrance of facts and words by filling blanks in sentences; (2) true-false tests; (3) multiple-choice tests. The map study consists chiefly in identifying on outline maps the boroughs of New York, and some ten or fifteen places in and around each continent.

These booklets have a modicum of aid in teaching geography.

H. HARRISON RUSSELL

*State Teachers College*
*Bloomsburg, Pennsylvania*

# DO IT NOW

THE JOURNAL will bring many fine things this year. There will be more in our HUMAN GEOGRAPHY series, in the HOW TO TEACH IT series, in our TRAVEL SKETCHES, and in a new series of UNIT STUDIES by Professor Ernest Young, Surrey, England. In addition there will be many other articles, news notes, book reviews, lists of new publications, interest-stimulating devices—an abundance of material of inestimable value. We need to bring this to the attention of teachers.

## YOU CAN HELP

1. By renewing your membership and subscription thus aiding in keeping up the quality of the JOURNAL. Do it now.
2. Get at least one member from among your friends.
3. Send us the names and addresses of acquaintances who might be interested—people in university, college, high and elementary schools. DO IT NOW!
4. These are times when each reader should give his utmost aid to the cause of geographic education.
5. Send the list of names to Geo. J. Miller, State Teachers College, Mankato, Minn. *Please do it at once! Your assistance will be appreciated greatly.*
6. Send your renewal and new memberships directly to

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## NEW PUBLICATIONS

**India in 1930-31.** 752 pp. Illustrated. Government of India Central Publication Branch, Calcutta, India. 1932.

A report prepared for presentation to Parliament in accordance with the requirements of the 26th Section of the Government of India Act.

Huntington and Cushing. **Modern Business Geography.** 352 pp. Illustrated. World Book Co., Yonkers-on-Hudson, N.Y. 1932. $1.96.

Revised Edition. A junior or senior high school text. The material is organized in four economic units dealing with primary production, transportation, manufacturing, and consumption.

Isaiah Bowman. **The Pioneer Fringe.** American Geographical Society Special Publication No. 13. 361 pp. Illustrated. American Geographical Society, N.Y. 1931.

This volume is an outcome of a plan designed to carry on research in pioneer settlement. In this volume pioneer movements are analyzed and numerous regional applications are made of the principles evolved, followed by descriptions of pioneer lands.

**Official Gazetteer of Rhode Island.** Compiled by the Rhode Island Geographic Board in cooperation with the U. S. Geographic Board. 95 pp. Government Printing Office, Washington, D.C. 1932.

The correct and obsolete spelling of the names of all important places and natural features in Rhode Island. Similar gazetteers will be prepared for the various states to insure uniform official usage in all departments of the Government.

J. Russell Smith. **American Lands and Peoples.** 394 pp. Illustrated. John C. Winston Co., Philadelphia. 1932. $1.44.

The first book in a new two volume "single-cycle plus" series. This series follows the previously published "Home Folks" and "World Folks" for beginners. Each study unit is followed by pupil-activity material and affords a background for history and other social studies.

David W. Trainer, Jr. **The Tully Limestone of Central New York.** New York State Museum Bulletin No. 291, October, 1932. 43 pp. Illustrated. The University of the State of New York, Albany. 1932.

A résumé of a field study covering particularly an analysis of the rocks as revealed by a petrographic microscope.

Arthur Albert Wedel. **Geologic Structure of the Devonian Strata of South-Central New York.** New York State Museum Bulletin No. 294. November, 1932. 74 pp., and a structural contour map. The University of the State of New York, Albany. 1932.

Details of geologic structure and suggestions as to the probable relation and origin of the strata, particularly in the light of their oil and gas possibilities.

Robert Balk. **Geology of the Newcomb Quadrangle.** New York State Museum Bulletin No. 290. October, 1932. 106 pp. Illustrated. The University of the State of New York, Albany. 1932.

A report based on a survey assigned to map the geology of this portion of the south central Adirondacks.

David Segel. **Tests in the Social Studies.** Circular No. 71. Office of Education, Washington, D.C. 1933.

Contains a list of available tests in geography.

# *The* JOURNAL *of* GEOGRAPHY

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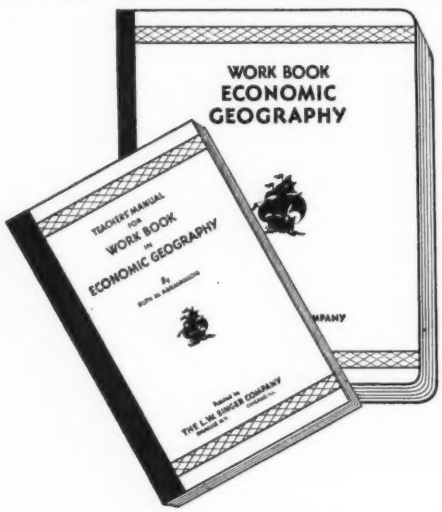


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